ABSTRACT

The present invention relates to the identification of host cell proteins that interact with viral proteins required for virus replication, and high throughput assays to identify compounds that interfere with the specific interaction between the viral and host cell protein. Interfering compounds that inhibit viral replication can be used therapeutically to treat viral infection.

The invention is based, in part, on the Applicants' discovery of novel interactions between proteins of the influenza virus and a human host cell proteins. One of these host cell proteins, referred to herein as NPI-1, interacts with influenza virus protein NP, and may be an accessory protein required for replication of influenza virus. Another of these host cell proteins, referred to herein as NS1I-1, interacts with influenza virus protein NS_1. Compounds that interfere with the binding of the host cell and viral proteins, and inhibit viral replication can be useful for treating viral infection *in vivo*.